

REMARKS/ARGUMENTS

Objection to the Specification:

The specification has been objected to because the measuring unit of surface roughness is allegedly not disclosed. Applicant has appended a substitute specification with the units included to this Amendment. As explained below, new matter was added. Acceptance of the substitute specification is respectfully requested.

Rejections Under 35 USC § 112:

Claims 16-22, and 24-30 have been rejected under 35 USC § 112 first paragraph and second paragraph, as allegedly not being enabling or being indefinite with regards to the surface roughness of the electrode. Applicant respectfully traverses the rejections for at least the following reasons.

R_a is the arithmetic average height of the bumps on a surface, measured in micrometers or microinches. Looking at Fig. 2 of the present invention, the scale, which has units of micrometers, indicates that the "bumps" on the surface of the electrode are on the order of 2.2 to 2.9 micrometers. This is further supported by the specification as filed at page 3, line 31. Therefore, one of skill in the art would know that the surface roughness parameters in the present application have units of micrometers. Thus, the disclosure has been fully enabled as filed and the claims are not indefinite. Reconsideration and withdrawal of the rejections are respectfully requested.

Rejections Under 35 USC § 103:

Claims 16-22, and 24-30 have been rejected under 35 USC 103(a) as allegedly being obvious over Gorkovenko et al. (US 6,210,831) in view of Kuwana et al. (US 4,541,905). Applicant notes that claim 24 has been amended to more properly depend from claims 16 rather than canceled claim 23. Applicant respectfully traverses the rejections for at least the following reasons.

As mentioned by the Examiner on page 4 of the Office action, Gorkovenko et al. fails to teach a surface roughness. Kuwana et al. merely teaches that when the platinum particle surface is examined, its surface roughness is expected to increase as particle diameter increases up to some critical value. (col. 4, line 68 - col. 5, line. 9). Kuwana et al. does not discuss why one would want to increase or decrease the surface roughness, and what impact it would have on the electrode. Further, Kuwana et al. does not give any guidance as to what surface roughness values should be used. By contrast, in claim 16 of the present invention, the addition of the inorganic additive lowers the surface roughness, thereby decreasing interfacial resistance, causing a decrease in internal resistance of the battery. In addition to increasing the capacity, the cycle life is increased from 60% to 91%. (See p. 30, lines 5-14). Gorkovenko et al. and Kuwana et al. are silent as to the decrease in surface roughness and the life cycle characteristics that are improved within the amount of the inorganic additive claimed in the present invention. Therefore, one of skill in the art would not be able to obtain the electrode claimed in claim 16 of the present invention by merely combining Gorkovenko et al. and Kuwana et al.

Because claims 17-22 and 24-30 depend from claim 16, and because Gorkovenko et al. and Kuwana et al. fail to teach or suggest all of the elements of independent claim 16, claims 17-22 and 24-30 are also not obvious in view of Gorkovenko et al. and Kuwana et al. Applicant respectfully requests reconsideration and withdrawal of the rejections under 103(a) of claims 16-22 and 24-30.

Conclusion

In view of the above, Applicant respectfully submits that claims 16-22 and 24-30 are in condition for allowance, and a timely indication of allowance is respectfully requested. If there

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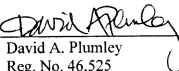
Reply to Office action of March 7, 2007

are any remaining issues that can be addressed by telephone, Applicant invites the Examiner to contact the undersigned at the number indicated.

Respectfully submitted,

CHRISTIE, PARKER & HALE, LLP

By



David A. Plumley
Reg. No. 46,525
626/795-9900

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